

STATE OF ALASKA

William A. Egan, Governor



Annual Progress Report for

A Study of Land Use Activities and their  
Relationship to the Sport Fish Resources in Alaska

by

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## PREFACE

This report concludes the first full year of field activities to be conducted under the Land Use Study (D-1). This report does not, however, present the initial information which has been collected on the effects of logging on fish habitat.

Initial research into logging effects on rearing fish habitat was started under the Dolly Varden Study (R-IV). In 1970, it was decided that research was necessary to determine what effects logging operations have on the stream habitat needed by the Dolly Varden, Salvelinus malma, during their freshwater rearing stages. As a result, a separate job entitled, Effects of Logging on Dolly Varden (R-IV-B), was initiated under the Dolly Varden study.

After two years of research, the major emphasis no longer rested solely with Dolly Varden, but had expanded to include all rearing salmonids. In addition, it was felt that a broader scope of study, covering all phases of land use activities, rather than solely logging operations, was necessary. Consequently, it was recommended that the effects of logging research be removed from the Dolly Varden Study and a new overall Land Use Study be established. The following reports cover the initial activities conducted under this new study.

## ANNUAL REPORT OF PROGRESS

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Job D-I-A      Establishment of Guideline for Protection of the  
Sport Fish Resources During Logging Operations

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## RESEARCH PROJECT SEGMENT

State: Alaska

Project No.: F-9-5

Name: Sport Fish Investigations of Alaska.

Study No.: D-I

Study Title: A Study of Land Use Activities  
and Their Relationship to the  
Sport Fish Resources in Alaska

Job No.: D-I-A

Job Title: Establishment of Guidelines for  
Protection of the Sport Fish Resources  
During Logging Operations.

Period Covered: July 1, 1972 to June 30, 1973

## ABSTRACT

This report presents the results of the first year of study on the effects of logging on the sport fish resources in Alaska. Study emphasis included: serving as members of Forest Service multi-disciplinary teams on pre-logging surveys, designating important sport fishing waters in southeast Alaska, presentation of educational programs at logging camps, and publication of a pamphlet on logging and its effect on fish habitat.

Ten multi-disciplinary team pre-logging surveys were conducted. The MDT surveys consisted of resource inventories in areas scheduled for logging in the near future. Recommendations were made on methods of protecting the sport fish resources during the logging operations.

Eighteen areas were designated as outstanding sport fishing waters in southeast Alaska. These areas were recommended for classification as "dispersed recreation areas" under Federal Regulation U-3 (a).

Six educational programs were presented at southeast Alaskan logging camps in cooperation with the Forest Service. These programs illustrated the importance of fish habitat and how logging can affect it.

A pamphlet entitled Logging and Fish Habitat was published in conjunction with the Forest Service and the Alaska Department of Natural Resources. This pamphlet will be used to supplement the educational programs.

## RECOMMENDATIONS:

The major emphasis of this study should continue to be directed toward making recommendations which will protect waters important to the sport fish resource during logging operations. This research should follow three lines of investigation:

1. Providing technical assistance to the Forest Service in surveying watersheds prior to timber harvest and advising the Forest Service of guidelines necessary to protect the sport fish resource.
2. Providing technical assistance to the Forest Service in advising loggers of the importance of fish habitat and the methods needed to protect the habitat during timber harvest at meetings conducted at various logging camps throughout southeast Alaska.
3. Conducting surveys of areas recently logged and presently being logged to evaluate the effectiveness of our recommendations and how they might be improved.

## OBJECTIVES:

1. To designate waters important to the sport fish resource and make recommendations to protect these waters during logging.
2. To inform loggers of the importance of fish habitat and the methods needed to protect this habitat during logging.

## TECHNIQUES USED:

### Pre-Logging Surveys

Due to recent federal legislation stating "all agencies of the Federal Government shall report on major Federal actions significantly affecting the quality of the human environment" (Connaughton, 1971), as well as public pressure for more intensive pre-logging planning in National Forest, the U.S. Forest Service has established multiple-disciplinary Teams (MDT) in both the North and South Tongass National Forests in southeastern Alaska. These teams consist of specialists in various disciplines from within the Forest Service and other federal agencies, as well as representatives from Game, Commercial Fish, and Sport Fish Divisions, and the Habitat Section of the Alaska Department of Fish and Game. The purpose of the teams is to conduct resource inventories in proposed logging areas and submit recommendations on the best methods of conducting logging operations while having the least impact on the other resources involved.

Ten MDT surveys were conducted (three in North Tongass and seven in South Tongass) in southeast Alaska (Fig. 1).

On the ground surveys were conducted in each of the study areas. Helicopter charter and vessel accommodations were furnished by the Forest Service. Written

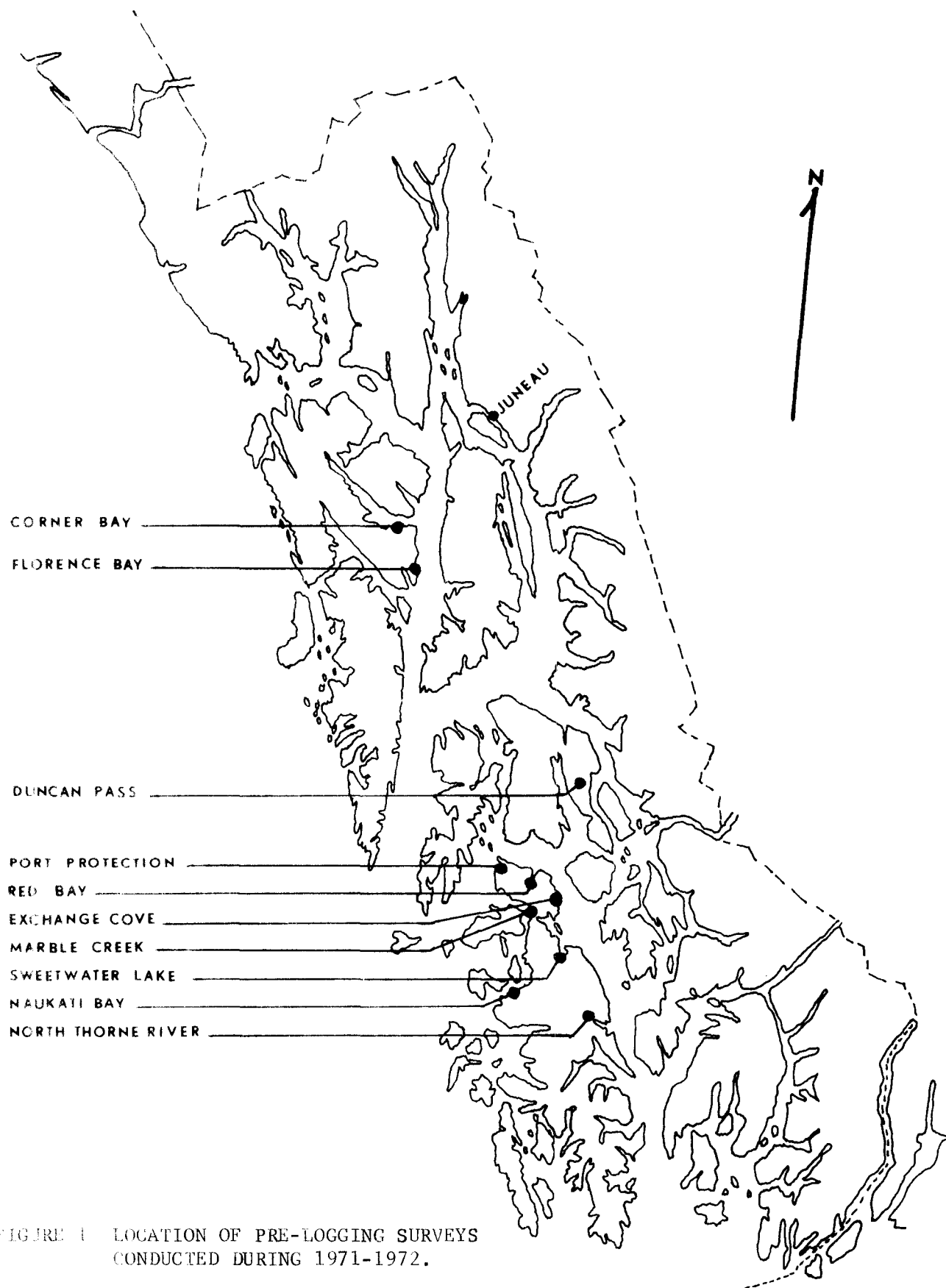


FIGURE 1 LOCATION OF PRE-LOGGING SURVEYS  
CONDUCTED DURING 1971-1972.

recommendations based on the field observations were submitted to the team leaders and subsequently discussed at team meetings and accepted or rejected based on a consensus of the team members present. However, each team member's recommendations were included in their entirety, as appendices to the team report, whether or not the recommendations were accepted in the team report.

### Designation of Important Sport Fishing Waters

Due to the extensive logging operations being conducted in southeast Alaska, it became evident that important sport fishing areas needed to be identified if they were to receive the necessary protection to maintain their recreational value.

To provide this information, a total of eighteen watersheds throughout southeast Alaska (Fig. 2) were designated as outstanding sport fishing areas. This list was accumulated by reviewing Alaska Department of Fish and Game files and consulting members of the Sport Fish Divisions staff in southeast Alaska. Criteria considered during the selections included: present and potential recreational use, species of sport fish present, size of runs, and overall recreational opportunities available.

### Logging Camp Educational Programs

Observations of the typical problems associated with small streams within logging areas as described in Reed and Elliott (1972), suggested a need to illustrate the importance of these streams to the loggers who were actually working on the ground. To achieve this it was decided to travel to logging camps and present programs aimed at illustrating the importance of the smaller streams and explaining why protective measures were requested during logging operations.

These programs were presented in cooperation with the U.S.F.S. at six logging camps located in the North and South Tongass National Forests (Fig. 3).

The presentation ran approximately 1 - 1½ hours and consisted of a brief discussion of the life history and freshwater requirements of salmonids and char, a short film, and a discussion, with slides, of the importance of small streams to rearing fish, and the logging problems associated with them.

### Joint Logging Pamphlet

To supplement the educational programs a pamphlet entitled Logging and Fish Habitat was prepared in cooperation with the U.S.F.S. and the Alaska Department of Natural Resources.



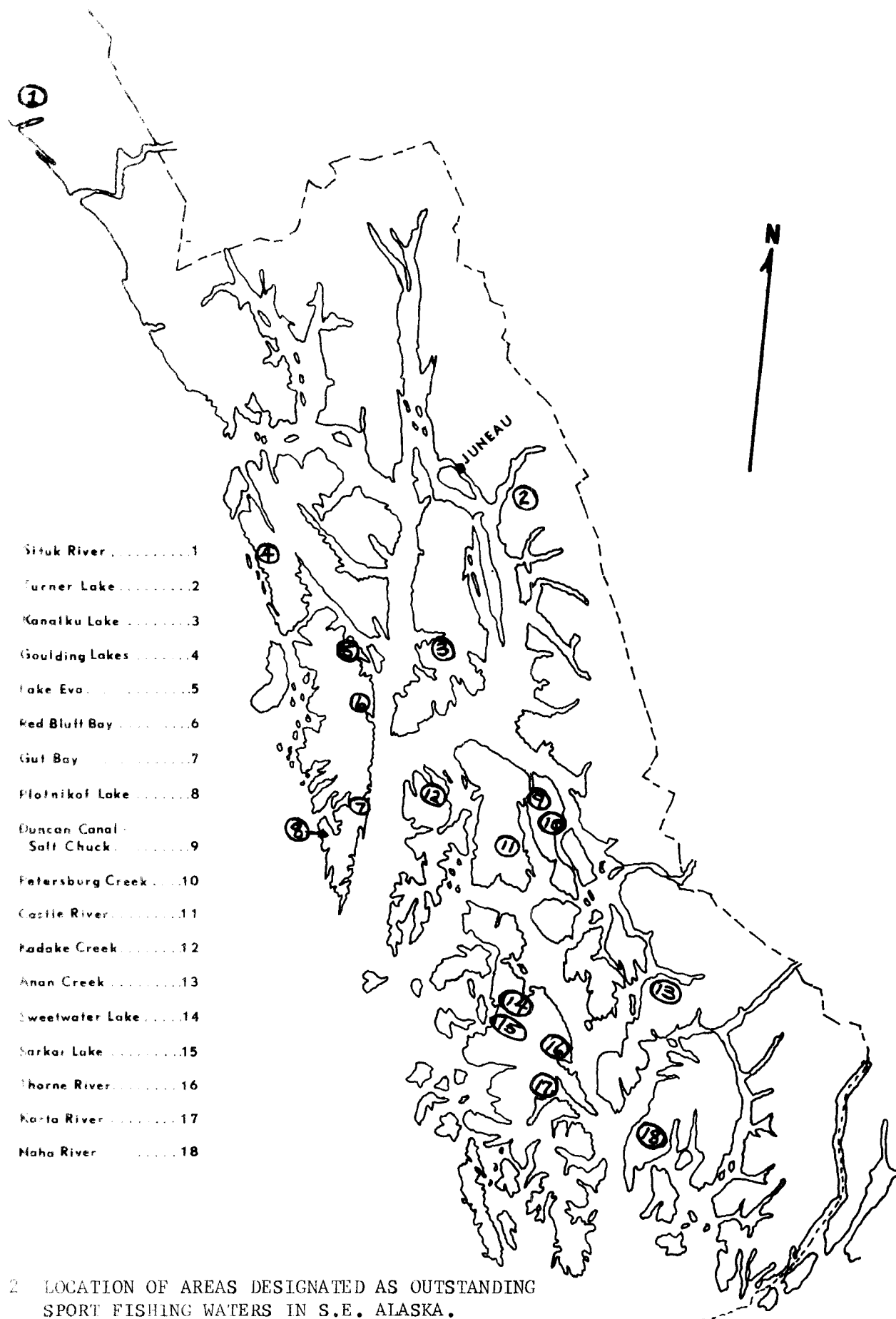


FIGURE 2 LOCATION OF AREAS DESIGNATED AS OUTSTANDING  
SPORT FISHING WATERS IN S.E. ALASKA.

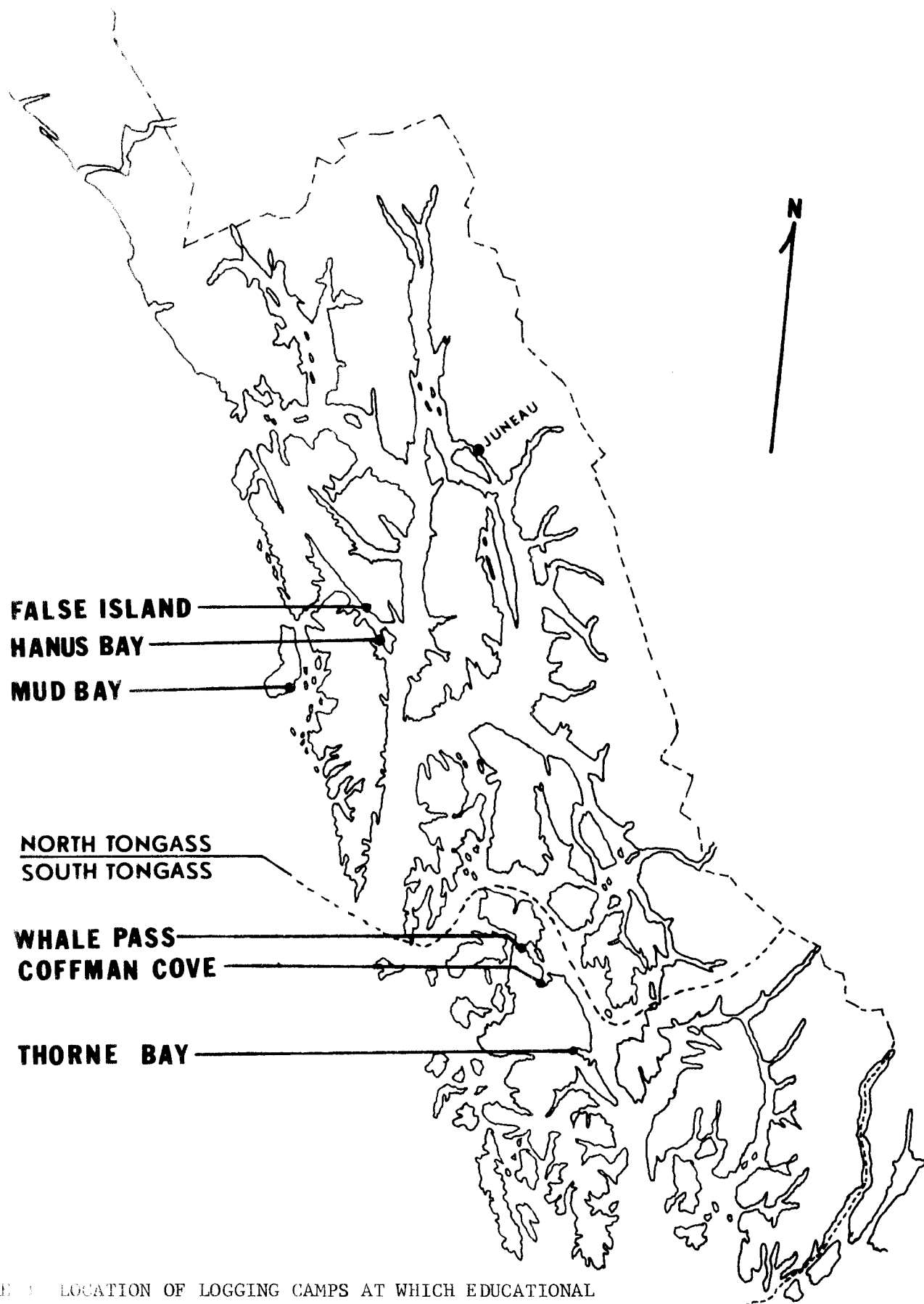


FIGURE 1 LOCATION OF LOGGING CAMPS AT WHICH EDUCATIONAL PROGRAMS WERE PRESENTED DURING 1971-1972.

A joint committee with representatives from each of the participating agencies was established to write and edit the pamphlet. The decision to include the aforementioned agencies was made to cover logging practices on both federal and state lands.

## FINDINGS

### Pre-Logging Surveys

The acceptance of department personnel to act directly as members of the U.S.F.S. multi-disciplinary teams has resulted in closer cooperation between the two agencies than formerly existed. There are still problems to work out, mainly lack of communication on a timely basis, but in general, the program appears to be working quite well. Continued association with the teams, as well as the opportunity to evaluate past recommendations, will improve both future recommendations as well as overall team cooperation and effectiveness.

The following summaries of the recommendations submitted on each of the study areas.

#### Corner Bay-Kook Lake:

This study has not been concluded but the following recommendations have been accepted.

The Kook Lake shoreline should not be logged, nor should clearcuts be visible from the lake. (A 1/2 mile leave area encircling the lake was obtained.)

The main inlet to Kook Lake should not be logged due to its importance as a spawning and rearing area as well as a sport fishing area. (An adequate leave area of about 500 feet on each side of the stream was secured.)

There should be trail access only to the lake from the nearest logging road.

All tributaries should be logged away from by use of split settings. (This recommendation was included in all the survey reports and thus will be reiterated.)

In addition, recommendations concerning leave areas along portions of the Corner Bay stream were accepted.

#### Florence Bay:

This study is still underway but all recommendations were accepted.

The recommendations consisted primarily of leave areas along Whiterock River for protection of spawning and rearing areas.

A road location was also relocated to prevent disturbance of a grass flat at the mouth of a small creek which appeared to be serving as a rearing and/or holding area for pre-smolt coho, Oncorhynchus kisutch.

#### Duncan Pass:

Partial field surveys were completed but no formal report was written nor recommendations made as the field work will be continued next year.

#### North Prince of Wales (Exchange Cove, Red Bay, Port Protection):

This survey was a consideration of three bays on the north coast of Prince of Wales Island for location of logging camps and/or log dumps.

The recommendations submitted corresponded to those submitted by representatives of the National Marine Fisheries Service and the Bureau of Sport Fish and Wildlife and, in general, were accepted.

Basically the recommendations included no camps or dumps in Red Bay or Port Protection. This recommendation was followed and the camp and dump is now planned for Labouchere Bay. Although it was also recommended that no camp or log dump be established at Exchange Cove, this was modified before acceptance resulting in a floating logging camp only.

#### Marble Creek:

This was a limited survey which was conducted in conjunction with the north Prince of Wales survey. The basic recommendations of stream protection were made and accepted.

A more detailed survey was not conducted due to the limited sport fish potential of the area.

#### Sweetwater Lake:

The field work was completed on this survey late in the season and no formal report was submitted. The information gathered will be used in the overall planning of the upcoming 5-year logging contract for Prince of Wales Island.

#### Naukati Bay:

The basic recommendations of logging away from the banks to protect the streams within the unit were made and accepted. In addition, a road was relocated away from the shoreline of an unnamed lake within the unit. The road relocation was requested due to the potential sport fishing opportunities this lake offers and the detrimental effect the shoreline road would have on the esthetics of the area.

North Thorne River:

The recommendations submitted for this unit were closely related to the soils recommendations due to the steepness of the terrain. The major consideration was to leave areas to prevent sedimentation introduction into the stream from landslides. All recommendations were accepted.

#### Designation of Important Sport Fishing Waters

Due to public pressure for improved management of Forest Service lands, the North and South Tongass forests initiated multiple use replanning programs. These programs consisted of hearings on management of various areas of the respective National Forests. Public and agency input was actively solicited. The listing of outstanding sport fishing areas, became the major portion of the input by the Alaska Department of Fish and Game into this planning program.

These areas were submitted for consideration for classification as dispersed recreational areas under Federal Regulation U-3 (a). Under this classification, these areas would be "managed principally for recreational use substantially in their natural condition..." (General Services Admin., 1966). These areas have been acknowledged by the U.S.F.S. as important recreational areas requiring special study prior to logging activities. No areas at this date have been officially classified under the U-3 (a) regulation.

#### Logging Camp Educational Programs

The educational programs were presented at six camps and to a total audience of 207 persons (Table 1). The presentations were well received, and at each camp the owners and/or foremen were present in the audience. The general comments received from the audiences were expressions of gratitude for taking time to discuss and explain the reasons behind the new methods they were being requested to follow during logging operations.

Audience participation indicated the information presented was understood and beneficial in helping the logger on the ground understand the value of seemingly unimportant small streams to fish production.

Table 1. Dates and Attendance of Logging Camp Educational Programs Held During 1971-1972.

Date	Camp Location	Attendance
10/6/71	Thorne Bay, Prince of Wales Island	26
10/7/71	Whale Pass, Prince of Wales Island	30
10/8/71	Coffman Cove, Prince of Wales Island	35
5/23/72	Mud Bay, Kruzof Island	28
5/24/72	Hanus Bay, Baranof Island	25
5/25/72	False Island, Chichagof Island	63
Total		207

### Joint Logging Pamphlet

The following is an abstract of the pamphlet, Logging and Fish Habitat, which was published jointly with the U.S.F.S. and the Alaska Department of Natural Resources:

The freshwater habitat requirements of salmon, trout, and char and the steps necessary to protect this habitat during logging operations are discussed.

Items relating to the freshwater habitat include: conditions necessary for spawning, the requirements of the incubating eggs, and the spatial needs of the rearing fish which remain in the streams for varied periods of time. During the discussion of rearing requirements, the importance of small (some only a few inches in width) feeder streams in providing additional rearing area is pointed out. Also the value of springfed tributaries, which many times remain ice-free in winter thus providing needed overwintering area, is covered.

Problems arising from improper logging techniques are illustrated with photographs and discussions. Ways to avoid these problems with proper techniques are suggested.

A summary of practices which will help protect the fish habitat both during and after logging operations is presented.

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